A New Species of the Genus Chionodes in California (Lepidoptera, Gelechiidae)

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During the course of investigations on the early stages of the Xyelidae (Hymenoptera), Donald J. Burdick has discovered larvae of several gelechiid moths which feed in the staminate cones of pines. One of these subsequently has proven to be an undescribed species, and although closely related to *Chionodes johnstoni* Clarke (1947), specimens from two localities are quite consistent in the differing characters. The species is described at this time in order to make the name available for biological studies now in progress.

Chionodes sabinianae, new species

A dark grey moth, flecked with white and with a single, sinuate, white, transverse band on the fore wing at the apical one third of the wing. With the characters of the genus as outlined by Busck (1939).

Male: *Labial palpus* predominantly black. Second segment with scattered white scales exteriorly and a pure white tuft at the apex exteriorly; mixed grey and white scales above and interiorly, nearly white on upper half interiorly. Third segment with white scales intermixed especially above and along distal half; with a white tip. *Antenna* black; whitish scales scattered along the length dorsally; the scale rows alternating black and white ventrally; a white tuft at apex of basal segment, more pronounced ventrally. *Head* grey, the scales darker toward apices; face below antennal bases predominantly whitish. *Thorax* grey, the scales darker toward apices; with a bright ochre-yellow tuft posteriorly. *Fore wing* dark grey, the scales whitish on their basal halves, blackish toward apices. Markings on wing as follows: a roundish spot at one third the length of the wing from base on lower fold, margined exteriorly by a black area; another white spot at about the end of the cell, both preceded and followed by black areas; a transverse, white band from apical third on costa to anal angle, curved slightly outward at middle; two small, white submarginal spots, one at apex and one just below and inside it. Fringe with hairs grey, scales whitish-grey, darker at apices. Wing surface roughened by areas of upturned scales; most pronounced in the random scattered white scales and in the scales which make up the white spots. *Hind wing* light grey, darker toward apical margin. Fringe of whitish hairs. *Legs* whitish, marked with grey. Fore and mid legs with dark grey overscaling above and exteriorly as follows: intermixed black and white on femora; tibiae with three subequal bands separated by raised, yellowish, narrow bands; tarsi black except tufts at apices of first, second and fifth segments. Hind leg with pale grey overscaling exteriorly as follows: tibia with small basal spot, ill-defined blotch before mid spurs, broad band before apical whitish tuft; tarsi except apical tufts on all segments. (The holotype lacks one prothoracic and one metathoracic leg.) *Abdomen* greyish, with dorsal tufts of whitish hairs laterally on first segment and apically on eighth segment. *Genitalia* as in figs. 1, 2 (drawn from paratype). Harpes asymmetrical; right harpe sharp-pointed, left harpe blunt, about one fourth longer than the right. Aedeagus slightly shorter than the remainder of the genitalia, the slender stalk constituting about one half the length; distal end with a finger-like lateral projection which curves around the deeply cleft central portion.

Female: Coloration nearly identical with that of male; tip of abdomen yellowish above. Genitalia as in fig. 3 (drawn from paratype). Signum subrectanglar, irregular in outline, quite large.

Wing expanse: male, 12.2–14.0 mm.; female, 14.3–15.6 mm. (reared specimens).

Holotype male and *allotype female:* Russelman Park, Mt. Diablo, Contra Costa County, CALIFORNIA, April 9, 1958, reared from staminate cones of *Pinus sabiniana,* emerged May 6 and May 9, 1958, (D. J. Burdick), deposited in the collections of

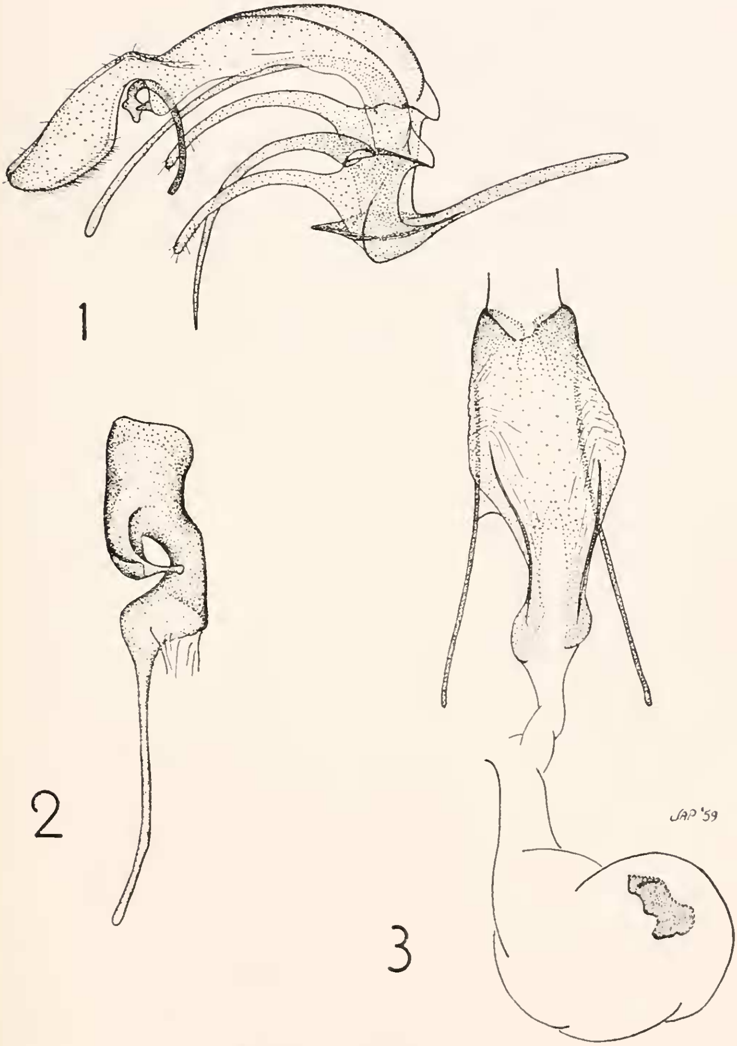

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Fig. 1. Male genitalia, lateral aspect, aedeagus removed. Fig. 2. Aedeagus, dorsal aspect. Fig. 3. Female genitalia, ventral aspect, anal papillae and posterior apophyses removed.

the California Academy of Sciences, San Francisco. *Paratypes* as follows: 3 ♂♂, Arroyo Mocho, 20 miles south of Livermore, Alameda County, California, April 2, 1957, reared from staminate cones of *Pinus sabiniana,* emerged April 29 to May 14, 1957, (D. J. Burdick); 1 ♂, 4 ♀♀ same data as holotype except emerged May 5 to May 9, 1958, deposited in collections of U. S. National Museum, British Museum, California Insect Survey (University of California, Berkeley), and in author's collection.

The coloration, especially with regard to the extent of white, is variable. Any of the small white spots may be lacking on one or both wings, but the white band is uniform throughout the series studied. Some paratypes show much more extensive white scaling than the holotype and appear more variegated to the naked eye with the black spots prominent on a lighter background.

The species is nearest to *C. johnstoni* Clarke, from which it differs by the shape of the aedeagus (two specimens examined) and by minor differences in the shape of the sclerotization of the eighth segment and signum of the female. In addition, Dr. J. F. Gates Clarke, U. S. National Museum, Washington, D. C., who kindly compared specimens of *sabinianae* with *johnstoni,* states (*in litt.*) that the light areas in *johnstoni* are yellowish in comparison with the white markings of *sabinianae*. He further notes that the upturned scales are absent in *johnstoni,* but that this may be due to the fact that the specimens of *sabinianae* were reared and those of *johnstoni* had flown.

Literature Cited

Busck, A. 1939. Proc. U. S. Nat. Mus. 86 (3064): 563–593.
Clarke, J. F. G. 1947. Jour. Wash. Acad. Sci. 37 (7): 243–254.